



Agricultural  
Research  
Service

South  
Atlantic  
Area

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## Agriculture and Urban Development

### The Challenges and Opportunities of Farming along the Urban-Rural Interface

#### Why Does it matter?

The **J. Phil Campbell Sr., Natural Resource Conservation Center's** mission is to develop and transfer environmentally sustainable and profitable agricultural systems to land owners and managers that protect the natural resource base, build accord with non-agricultural sectors, and support healthy rural economies. Twenty years ago the Center was situated in an agricultural region. Subdivisions and associated non-agricultural commercial enterprises now dominate the landscape in the area surrounding the Conservation Center. Our challenge is communicating and demonstrating the benefits of sustainable agricultural practices to suburban residents with little exposure or appreciation for agriculture as well as to agriculturalists who need to build profitable agricultural systems to remain on the land.



#### What is being done?

Agricultural management practices are available to control erosion, enhance soil and water quality, and improve wildlife habitat. These practices are encouraged by local, state, and federal natural resource protection and regulatory agencies. We are implementing these practices and demonstrating their effectiveness to both farm and non-farm neighbors.

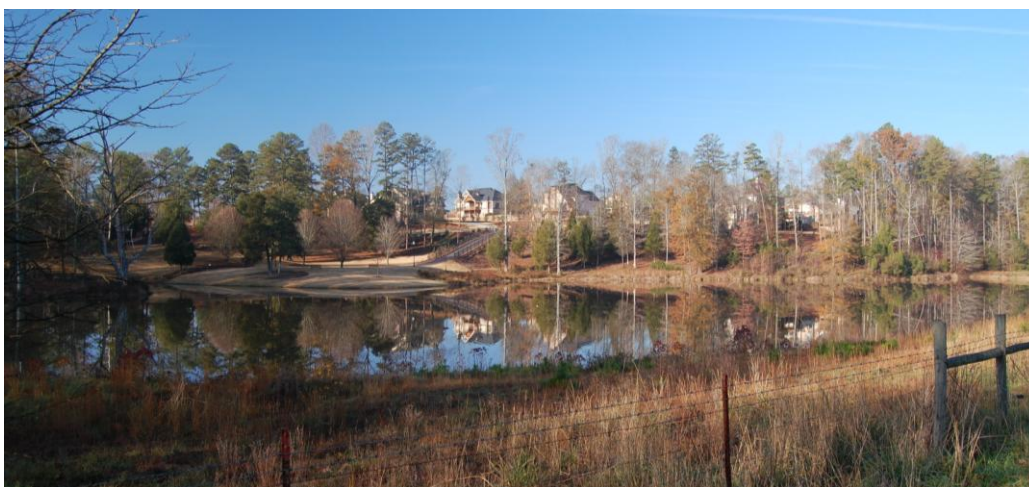
- Enhancing soil and water quality
  - Moving from traditional methods of production into precision agriculture technology (variable rate fertilizer application, GPS/GIS technology, aerial photographs, first order soil surveys, electrical conductivity mapping, spreader trucks for prescription fertilization)
  - Fencing animals out of ponds, streams, riparian areas and grassed waterways
  - Improving spillway and wellhead protection
- Erosion Control
  - Configure pastures to maximize efficiency of rotational grazing and forage stockpiling
  - Installed freeze proof water troughs (Mirafount) and constructed heavy use areas
- Wildlife Habitat
  - Planting native grasses and annual food crops in wildlife areas
  - Developing specie specific song bird habitat

- Partnering
  - Demonstrating conservation practices that government agencies and non government organization would like producers to implement
  - Provide tour opportunities and field day demonstrations of Best Management Practices (BMP's) for agri-businesses, groups, and individuals
  - Provide educational programs for citizen groups

**What has been found?**

- Variable rate fertilization showed increased efficiency in nutrients application in hay fields and reduced cost by preventing a 12% over application of Phosphorus (P).
- MiraFount water troughs reduced trough overflow, maintained water temperature in extreme weather, and reduced labor needed to repair heavy use areas by 5%.
- Stockpiling forage and more efficient rotational grazing increased grazing days by 8%.
- Heavy use areas reduced soil degradation and erosion in animal camping areas thereby improving ground conditions for animals and improving foot health.
- Planting grass waterways with native species and annual food crops assisted in maintaining the number of bird species over the last five years.
- Our visibility increased in the community by participating in educational opportunities for non-farm neighbors. People with suburban interests such as home owners, small-scale farmers, groups representing large intercounty watersheds, and municipalities.
  - 3<sup>rd</sup> grader Ag Day 2000-2009; American Kennel Club Tracking Test 1999-2009; Audubon Society Christmas Bird Count 2004-2009
  - Cooperative Extension Service Master Naturalist Class 2008-2009; Leadership Oconee 2007-2009; Georgia Organics 2010; UGA College of Agriculture and Environmental Science graduate and undergraduate education classes

**What is the impact?**



The intermingling of neighborhoods and agricultural lands provides an opportunity for producers to demonstrate good land stewardship and for suburbanites to grow in understanding of agricultural practices for food and fiber production. Sound resource management at our location provides an opportunity to disseminate information to a wide group of people interested in the same results. Synergistically, people can collaborate to protect natural resources and agricultural land. It is imperative that all parties involved strive to understand each facet of the issue. Collaboration and communication increases awareness of good land stewardship along the urban-rural interface.

**Research Team and Contact information**

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